



CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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April 10, 2018

Florida All Orange Production Unchanged from March
Florida Non-Valencia Orange Production Unchanged
Florida Valencia Orange Production Unchanged
Florida All Grapefruit Production Down 14 percent
Florida All Tangerine and Tangelo Down 13 percent

FORECAST DATES - 2017-2018 SEASON	
May 10, 2018	June 12, 2018
July 12, 2018	

Crop and State	Production ¹		2017-2018 Forecasted Production ¹	
	2015-2016 (1,000 boxes)	2016-2017 (1,000 boxes)	March (1,000 boxes)	April (1,000 boxes)
Non-Valencia Oranges ²				
Florida	36,100	33,000	19,000	19,000
California	47,200	39,300	35,000	35,000
Texas	1,351	1,090	1,430	1,550
United States	84,651	73,390	55,430	55,550
Valencia Oranges				
Florida	45,600	* 35,850	26,000	26,000
California	11,300	* 9,000	9,500	9,500
Texas	340	280	400	560
United States	57,240	* 45,130	35,900	36,060
All Oranges				
Florida	81,700	* 68,850	45,000	45,000
California	58,500	* 48,300	44,500	44,500
Texas	1,691	1,370	1,830	2,110
United States	141,891	* 118,520	91,330	91,610
Grapefruit				
Florida-All	10,800	7,760	4,650	4,000
White	2,490	1,480	850	750
Red	8,310	6,280	3,800	3,250
California	3,800	* 4,400	4,200	4,000
Texas	4,800	4,800	4,100	5,700
United States	19,400	* 16,960	12,950	13,700
Lemons				
California	21,000	20,500	20,500	20,500
Arizona	1,600	1,650	1,250	1,300
United States	22,600	22,150	21,750	21,800
Tangelos				
Florida	390	(NA)	(NA)	(NA)
Tangerines and Tangelos				
Florida-All ³	1,415	1,620	880	770
Early ⁴	785	600	(NA)	(NA)
Royal ⁵	(NA)	210	(NA)	(NA)
Honey	630	530	(NA)	(NA)
Tangelos	(NA)	280	(NA)	(NA)
California ⁶	21,700	23,900	21,000	21,000
United States	23,115	25,520	21,880	21,770

* Revised.

NA Not available.

¹ Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80; tangelos-90 in Florida for 2015-2016, and tangerines and mandarins in California-80, Florida-95.

² Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Includes small quantities of Temples in Florida for 2015-2016.

³ Prior to 2016-2017 includes Fallglo, Sunburst, and Honey tangerine varieties only. In 2016-2017, includes Fallglo, Sunburst, Royal, and Honey tangerine varieties and tangelos. Beginning in 2017-2018, includes all certified varieties of tangerines and tangelos.

⁴ Fallglo and Sunburst varieties.

⁵ Beginning in 2016-2017, Temples have been reclassified as Royal tangerines.

⁶ Includes tangelos and tangors in California.

Regressions

Regression data used are from the 2007-2008 through 2016-2017 seasons. All references to “average”, “minimum”, and “maximum” refer to these 10 seasons unless noted.

All Oranges 45.0 Million Boxes

The 2017-2018 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 45.0 million boxes, unchanged from the March forecast. The total includes of 19.0 million boxes of non-Valencia oranges (early, midseason, and Navel varieties) and 26.0 million boxes of Valencia oranges.

Non-Valencia Oranges 19.0 Million Boxes

The forecast of non-Valencia production is unchanged at 19.0 million boxes. The Row Count survey conducted March 27-28, 2018, showed 99 percent of the early-midseason rows are harvested. Estimated utilization for non-Valencia oranges to April 1, with an allocation for non-certified fruit, is 18.9 million boxes. The Navel forecast, included in the non-Valencia portion of the forecast, remains at 500 thousand boxes, 3 percent of the non-Valencia total.

Valencia Oranges 26.0 Million Boxes

The forecast of Valencia production is unchanged at 26.0 million boxes. Final fruit size is below average, requiring 236 pieces to fill a 90-pound box. Final droppage is above the maximum. The Row Count survey conducted March 27-28, 2018 showed 38 percent of the Valencia rows are harvested.

All Grapefruit 4.00 Million Boxes

The forecast of all grapefruit production is lowered 650 thousand boxes to 4.00 million boxes. The white grapefruit forecast is lowered 100 thousand boxes to 750 thousand boxes. The red grapefruit forecast is lowered 550 thousand boxes to 3.25 million boxes. Estimated utilization to April 1, with an allocation for non-certified use, of white grapefruit is 715 thousand boxes and of red grapefruit is 3.22 million boxes. The Row Count survey conducted March 27-28, 2018, indicated 94 percent of the red grapefruit rows and 92 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 770 Thousand Boxes

The forecast for the tangerine and tangelo production is lowered 110 thousand boxes to 770 thousand boxes. If realized, this production level will be 52 percent less than last season’s production. This forecast number includes all certified tangerine and tangelo varieties.

Reliability

To assist users in evaluating the reliability of the April 1 United States (California, Florida, and Texas) production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the April 1 production forecast and the final estimate is expressed as a percentage of the final estimate. The average of squared percentage deviations for the latest 20-year period is computed. The square root of the average becomes statistically the "Root Mean Square Error." Probability statements can be made concerning expected differences in the current forecast relative to the final end-of-season estimate, assuming that factors affecting this year’s forecast are not different from those influencing recent years.

The "Root Mean Square Error" for the April 1 United States orange production forecast is 3.0 percent. However, if you exclude the three abnormal production seasons (one freeze season and two hurricane seasons), the "Root Mean Square Error" is 3.3 percent. This means chances are 2 out of 3 that the current orange production forecast will not be above or below the final estimates by more than 3.0 percent, or 3.3 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 5.2 percent, or 5.7 percent excluding abnormal seasons.

Changes between the April 1 United States orange forecast and the final estimates during the past 20 years have averaged 174,000 tons (191,000 tons, excluding abnormal seasons), ranging from 0 to 11.2 million boxes or 502,000 tons regardless of exclusions. The April 1 forecast for oranges has been below the final estimate 8 times, above 11 times and equal to 1 time (below 6 times, above 10 times and equal to once, excluding abnormal seasons). The difference does not imply that the April 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: April 2018

[Survey data is considered final in December for Navels, January for early-midseason oranges, February for grapefruit, and April for Valencia oranges]

Type	Bearing trees	Fruit per tree	Droppage	Fruit per box
	(1,000 trees)	(number)	(percent)	(number)
ORANGES				
Early-midseason non-Valencia	19,569	741	62	286
Navel.....	913	252	68	140
Valencia	28,390	510	52	236
GRAPEFRUIT				
White.....	722	396	66	107
Red	2,834	385	50	107

Maturity

Regular bloom fruit samples were collected from groves on established routes March 27-28, 2018 in Florida’s five major citrus producing areas and tested March 29, 2018. Only Valencia oranges were collected and tested this month. All comparisons are made to April 1, 2017. Acids and solids (Brix) are lower, resulting in lower ratios. Unfinished juice per box and solids per box are lower.

Indian River comparisons are made to fruit from other areas for this test period. Indian River oranges have a higher acid level and a higher solids (Brix), yet a lower ratio. Unfinished juice per box is lower and solids per box is higher for Valencia oranges in the Indian River District when compared to other areas.

Unadjusted Maturity Tests — Florida: April 1, 2016-2017 and 2017-2018

[Averages of regular bloom fruit from sample groves. Juice and solids per box are unadjusted and not comparable to juice processing plant test results. For 2016-2017 all samples were run through an FMC 091 machine using mechanical pressure only. This machine utilizes a .040 short strainer and standard 5/8 inch orifice tube on all cups. For 2017-2018, samples were run through an FMC 091B machine using pneumatic pressure. This machine utilizes a 0.025 short strainer and a 1.00 inch orifice tube for the 3 inch cup and a 1.25 inch orifice tube for the 4 inch and 5 inch cups]

Fruit type (number of groves) test date	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Valencia Oranges (116-99)										
Oct 1	2.00	1.84	8.84	8.74	4.50	4.83	45.84	48.81	4.05	4.26
Nov 1	1.67	1.57	9.17	8.80	5.55	5.66	50.00	51.34	4.59	4.52
Dec 1	1.43	1.27	10.10	9.19	7.11	7.31	52.48	53.43	5.30	4.91
Jan 1	1.24	1.06	10.83	10.06	8.87	9.62	54.04	54.36	5.85	5.47
Feb 1	1.08	1.01	11.46	10.63	10.68	10.65	55.79	54.61	6.40	5.80
Mar 1	1.00	0.87	11.89	11.11	11.97	12.86	54.39	55.19	6.47	6.13
Apr 1	0.87	0.85	12.08	11.36	14.04	13.58	55.26	54.70	6.68	6.22

Unadjusted Maturity Test Averages, by Areas — Florida: April 1, 2016-2017 and 2017-2018

Fruit type (number of groves)	Acid		Solids (Brix)		Ratio		Unfinished juice per box		Solids per box	
	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018
	(percent)	(percent)	(percent)	(percent)			(pounds)	(pounds)	(pounds)	(pounds)
Valencia Oranges										
Indian River (20-21)	0.89	0.91	12.29	12.09	13.96	13.42	55.86	54.54	6.85	6.59
Other Areas (96-78)	0.86	0.83	12.03	11.17	14.06	13.62	55.14	54.74	6.65	6.12

Fruit Size Comparisons to Previous Seasons

Size frequency distributions from the March size survey are shown in the table displayed in the right column. The distributions are by percent of fruit falling within the size range of each 4/5-bushel container. These frequency distributions include fruit from regular bloom and exclude fruit from summer bloom.

The chart to the right shows the distribution of fruit sizes in 2018 compared to 2017. The diameter measurements shown are the minimum values of fruit measured, except for the smallest value.

Citrus Size Frequency Measurement Distributions, by Type – Florida: March

Type and number of fruit per 4/5 – bushel containers	2016	2017	2018
	(percent)	(percent)	(percent)
VALENCIA ORANGES			
64 or less	5.8	5.1	3.8
80.....	16.3	12.8	13.8
100.....	32.2	26.7	30.4
125.....	27.4	28.7	30.4
163 or more	18.3	26.7	21.6

Fruit Size Frequency Measurements, Valencia Oranges, by Diameter – Florida: March

